

2661  
Tfw

PTO/SB/21 (04-04)

Approved for use through 07/31/2006. OMB 0651-0031  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

## TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

TRANSMITTAL FORM  (to be used for all correspondence after initial filing)	Application Number	10/080,120
	Filing Date	February 21, 2002
	First Named Inventor	De et al.
	Art Unit	2661
	Examiner Name	Robert W. Wilson
Total Number of Pages in This Submission	I-2-0173.10US	

ENCLOSURES (Check all that apply)		
<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Supplemental Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/ Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation <input type="checkbox"/> Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____	<input type="checkbox"/> After Allowance communication to Technology Center (TC) <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please Identify below): <b>Form PTO-1449</b>
Remarks		

## SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Michael L. Berman Volpe and Koenig, P.C.	Reg. No. 51,464
Signature		
Date	February 8, 2006	

## CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.

Typed or printed name	Michael L. Berman		
Signature		Date	February 8, 2006

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



**PATENT**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the **PATENT APPLICATION** of:

De et al.

**Application No.:** 10/080,120

Our File: I-2-0173.10US

**Confirmation No.:** 2957

Date: February 8, 2006

**Filed:** February 21, 2002

For: SINGLE USER DETECTION USER  
EQUIPMENT

Group: 2661

Examiner: Robert W. Wilson

**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT  
INCLUDING RULE 1.704(d) STATEMENT**

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Further to Applicants' Duty of Disclosure pursuant to 37 C.F.R. §1.56, Applicants wish to bring to the Examiner's attention the material cited on the enclosed PTO-1449 form. Newly cited documents are indicated by an asterisk (\*).

Pursuant to 37 C.F.R. §1.98(a)(2)(ii), copies of the newly cited U.S. publications and/or patent documents have not been included.

In the spirit of Rule 1.704(d), the undersigned certifies that each newly cited item of information contained in this Supplemental Information Disclosure Statement was cited in a communication in a counterpart U.S. application, and that this communication was not received by any individual designated in §1.56(c) more than

**Applicant: De et al.**  
**Application No.: 10/080,120**

thirty (30) days prior to the filing of the supplemental information disclosure statement.

It is respectfully requested that the Examiner consider these documents and return an initialed copy of the PTO-1449 form indicating his/her consideration of the cited materials.

Respectfully submitted,

De et al.

By MLB  
Michael L. Berman  
Registration No. 51,464  
(215) 568-6400

Volpe and Koenig, P.C.  
United Plaza, Suite 1600  
30 South 17th Street  
Philadelphia, PA 19103

MLB/ks  
Enclosure



FORM PTO-1449		ATTY. DOCKET NO. I-2-0173.10US	SERIAL NO. 10/080,120
		APPLICANT De et al.	
		FILING DATE February 21, 2002	GROUP 2661

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
*		5,157,688	10/1992	Dell-Imagine			
		5,337,226	12/1994	Davis			
		5,377,225	12/1994	Davis			
*		5,477,225	12/1995	Young et al.			
		5,648,983	07/1997	Kostic et al.			
*		6,064,689	05/2000	Vollmer et al.			
*		2002/0126619	09/2002	De et al.			
*		2002/0126646	09/2002	De et al.			
*		2002/0131383	09/2002	De et al.			
*		2002/0136160	09/2002	De et al.			
*		2002/0141366	10/2002	De et al.			
*		2002/0141372	10/2002	De et al.			
*		2002/0141373	10/2002	De et al.			
*		2002/0154599	10/2002	De et al.			
*		2002/0154619	10/2002	De et al.			
*		2002/0159383	10/2002	De et al.			
*		2002/0159428	10/2002	De et al.			

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

		Ramjee Prasad, Werner Mohr and Walter Konhauser editors, <i>Third Generation Mobile Communication Systems</i> , Artech House, Boston, 2000.
		Anja Klein, Ghassan Kawas Kaled and Paul Walter Baier, "Zero Forcing and Minimum Mean-Square Error Equalization for Multiuser Detection in Code-Division Multiple-Access Channels", <i>IEEE Trans. on Vehicular Technology</i> , Vol.45, No. 2, pp. 276-287, May 1996.
		Naja Klein, "Data Detection Algorithms Specially Designed for the Downlink of CDMA Mobile Radio Systems", <i>IEEE 47th Vehicular Technology Conference</i> , pp. 203-207, May 1997.

EXAMINER	DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449  U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE  INFORMATION DISCLOSURE STATEMENT BY APPLICANT  (Use several sheets if necessary)		ATTY. DOCKET NO. I-2-0173.10US	SERIAL NO. 10/080,120
		APPLICANT De et al.	
		FILING DATE February 21, 2002	GROUP 2661

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	H.R. Karimi and N.W. Anderson, "A Novel and Efficient Solution to Block-Based Joint-Detection using Approximate Cholesky Factorization", <i>Personal, Indoor and Mobile Communications PIMRC' 98</i> , Conference Proceedings, Vol. 3, pp. 1340-1345, Sept. 1998, Boston, MA.
	ETSI STC SMG2 Layer 1 Expert Group, "Low Cost MMSE-BLE-SD Algorithm for UTRA TDD Mode Downline", Tdoc SMG2 UMTS L1, Helsinki, Finland, Sept. 1998.
	3G TS 25.102 V3.4.0, 2000-10, " <i>UTRA (TDD) Radio Transmission and Reception</i> ", 3rd Generation Partnership Project, Technical Specification Group RAN WG4, Annex B., pp. 37.
	Lang Tong; Guanghan xu; Kailath T: "Blind identification and equalization based on second -order statistics: a time domain approach", IEEE Trans. Inf. Theory (USA), IEEE Transactions on Information Theory, March 1994, USA, ISSN 0018-9448, VOL-40, NR 2, pages 340-349
	Benvenuto N. et al. "Joint Detection With Low Computational Complexity For Hybrid TD-CDMA Systems" VTC 1999-Fall. IEEE VTS 50th. Vehicular Technology Conference. Gateway to the 21st Century Communications Village. Amsterdam, Sept. 19-22, 1999, IEEE Vehicular Technology Conference, NY
	Vandaele P. et al. "Recursive Total Least Squares Algorithm for Single-User Blind Channel Equalisation: IEE Proceedings: Vision, Image and Signal Processing, Institution of Electrical Engineers, FB, Vol 147, No. 3, 23 June 2000
	Yang et al., "Fast Joint Detection with Cyclic Reduction Exploiting Displacement Structures", 2000 IEEE International Conference on Acoustics, Speech and Signal Processing, Istanbul, Turkey, June 2000
	Proakis et al., "Digital Signal Processing", Macmillan Publishing Company, New York, NY, 1992, p. 835, para. 11.3.1, p. 890, para. 12.3.2
	Vollmer et al., "Joint-Detection Using Fast Fourier Transforms in TD-CDMA Based Mobile Radio Systems", International Annual Conference of ICT, 1999, pp. 1-7, p. 1, para. 1, p. 2, para. II, p. 3, para. III, p. 4, para. IV.
	Pigeonnat, "Alternative Solutions for Joint Detection in TD/CDMA Multiple Access Scheme for UMTS", IEEE Signal Processing Workshop on Signal Processing Advances in Wireless Communications, May 1999, pp. 329-332, p. 329, para. 2.

EXAMINER	DATE CONSIDERED
----------	-----------------

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.